

PATENT CLAIMS

1. A coated particle comprising a coating and a core particle comprising an active, wherein the coating comprises a gas phase
5 component.
2. The particle of claim 1, wherein the gas phase component constitutes at least 20 % by volume of the coating material.
- 10 3. The particle of claim 2, wherein the coating material including the gas phase component has a true density below 0.8 g/cm³.
4. The particle of claim 1, wherein the gas phase component in
15 confined within a light sphere.
5. The particle of claim 1, wherein the coating further comprises one or more waxes, polypeptides, and carbohydrate polymers.
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6. The particle of claim 5, wherein the wax is a polyethylene glycol.
7. The particle of claim 5, wherein the polypeptide is
25 selected from the group consisting of gelatine, collagen, casein, chitosan, polyaspartic acid and polyglutamic acid.
8. The particle of claim 5, wherein the carbohydrate polymer is selected from the group consisting of pectin, starch,
30 modified starch, cellulose, modified cellulose, carrageenan, gum Arabic, acacia gum, xanthan gum, locust bean gum and guar gum.

9. The particle of claim 1, wherein the gas phase component is atmospheric air, carbon dioxide, nitrogen, or a noble gas.

10. A composition comprising the particle of claim 1.

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11. The composition of claim 10, which is a detergent composition and further comprised a surfactant.

12. The composition of claim 10, which is a dough composition
10 and further comprises a flour.

13. A method for preparing the particle of claim 1, comprising one or more of the following steps:

(a) applying a coating material comprising a gas phase
15 component to a core particle, and

(b) applying a second coating material comprising a gas generating component to a core particle and

(c) treating the coated particles so as to generate a gas from the gas generating component.

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14. The method of claim 13, comprising step (b).

15. The method of claim 14, wherein the gas generating component is a volatile component and the treatment is heating.

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16. The method of claim 14, wherein the gas generating component is bicarbonate and the treatment is an acid treatment.

17. A method of claim 13, wherein step (a) comprises:

30 (i) providing a coating feed comprising a coating material, a gas phase component and optionally a solvent, at a pressure above atmospheric pressure,

(ii) applying the gas-containing coating feed to a core particle in a coating chamber,

(iii) releasing the pressure wholly or partly to atmospheric pressure, wherein said pressure release can be performed before or after step (ii).

18. The method of claim 17, wherein in step a), the pressure is from 2×10^5 Pa to 5×10^7 Pa.

10 19. The method of claim 17, wherein the pressure release is performed in one step.

20. The method of claim 17, wherein the pressure release is performed in at least one primary and one secondary step.

15 21. The method of claim 19, wherein the primary pressure release is performed before entering the coating chamber.

20 22. The method of claim 17, wherein the coating feed enters the coating chamber by means of a two-fluid nozzle (TFN).

23. The method of claim 17, wherein the coating feed enters the coating chamber by means of a pressure two-fluid nozzle (PTFN).

25 24. The method of claim 17, wherein the coating chamber is a fluid-bed.

25. The method of claim 24, wherein the fluid-bed is a bottom-spray fluid-bed with one or more draft tubes mounted vertically in the fluid bed.

26. The method of claim 25, wherein the fluid-bed is equipped with a TFN or PTFN type nozzle mounted in each draft tube.

27. The method of claim 17, wherein the gas phase component is atmospheric air, carbon dioxide, or nitrogen.

28. The method of claim 17, wherein the gas phase component in the coating on the coated particle constitutes at least 20 % by volume of the coating (solvent excluded), particularly 40 %, more particularly 60 %, even more particularly 80 %.

29. The method of claim 17, wherein the coating material comprises one or more waxes, polypeptides, carbohydrate polymers, and synthetic polymers.

30. The method of claim 29, wherein the polypeptide is selected from the group consisting of gelatine, collagen, casein, chitosan, polyaspartic acid, and polyglutamic acid.

31. The method of claim 29, wherein the carbohydrate polymer is selected from the group consisting of pectin, starch, modified starch, cellulose, modified cellulose, carageenan, gum Arabic, acacia gum, xanthan gum, locust gum, and guar gum.

32. The method of claim 29, wherein the synthetic polymer is selected from the group consisting of polyvinyl pyrrolidone (PVP), polyvinyl alcohol (PVA), polyvinyl acetate, polyacrylate, polymethacrylate, polyacrylamide, polysulfonate, polycarboxylate, and copolymers thereof, preferably water soluble polymers or copolymers.

33. The method of claim 17, wherein the coating feed further comprises a plastisiser.

34. The method of claim 17, wherein the core comprises an
5 enzyme.

35. The method of claim 17, wherein the size of the coated particle is in the range 100-5000 μm , preferably in the range 200-3000 μm , most preferably in the range 300-2000 μm .

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s36. Use of the composition of claim 34, for cleaning an object.

37. Use of the composition of claim 35 for improving dough.